

<b>EPA</b> United States Environmental Protection Agency Washington, DC 20460 <b>Work Assignment</b>						Work Assignment Number 3-20				
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:				
Contract Number EP-C-13-039			Contract Period   09/11/2013   To   07/31/2017 Base                      Option Period Number       3			Title of Work Assignment/SF Site Name Analytic Support for EPA Cross				
Contractor ABT ASSOCIATES INC.						Specify Section and paragraph of Contract SOW Paragraphs B.1, C.1, and G				
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval						Period of Performance  From   08/01/2016   To   07/31/2017				
Comments: Performance on this Work Assignment shall not begin until August 1, 2016. Meeting/Conference is authorized; however, this consent does not constitute a determination of the allowability of cost incurred.										
<input type="checkbox"/> Superfund                      Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
SFO <input type="checkbox"/> Note: To report additional accounting and appropriations date use EPA Form 1900-69A. (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:				LOE: 0				
09/11/2013 To 07/31/2017										
This Action:						2,480				
Total:						2,480				
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:				Cost/Fee			LOE:			
Cumulative Approved:				Cost/Fee			LOE:			
Work Assignment Manager Name   Joel Corona						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="text-align: center;">(Signature)</div>						Phone Number: 202-564-0006				
						FAX Number:				
Project Officer Name   Ahmar Siddiqui						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="text-align: center;">(Signature)</div>						Phone Number: 202-566-1044				
						FAX Number:				
Other Agency Official Name						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="text-align: center;">(Signature)</div>						Phone Number:				
						FAX Number:				
Contracting Official Name   Tammy Adams						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="text-align: center;">(Signature)</div>						Phone Number: 513-487-2030				
						FAX Number: 513-487-2545				

Digitally signed by TAMMY ADAMS  
 DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff,  
 cn=TAMMY ADAMS, dnQualifier=0000018417  
 Date: 2016.07.21 15:11:41 -04'00'

**WORK ASSIGNMENT  
PERFORMANCE WORK STATEMENT**

**I. Title: Analytical Support for EPA Cross Office Water Benefits Work**

**Contractor:** Abt Associates

**Contract No.:** EP-C-13-039

**II. Work Assignment Number:** 3-20

**III. Estimated Period of Performance:** August 1, 2016 through July 31, 2017

**IV. Estimated Level of Effort:** 2480 hours

**V. Key EPA Personnel:**

**Work Assignment Contracting Officer Representative (WACOR):**

Joel Corona  
OW/IO/WPS (MC-4101M)  
(202) 564-0006

**Alternate Work Assignment Contracting Officer Representative (WACOR):**

Ashley Allen  
OW/OST/EAD (4303T)  
(202) 566-1012

**VI. Background and Purpose:**

The 1972 Clean Water Act (CWA) directs the Environmental Protection Agency (EPA) to develop national water quality-based regulations for surface waters of the United States (US) and technology-based regulations for categories of industries that discharge pollutants directly to surface waters. Under Executive Orders 12866 and 13563, EPA is required to estimate the potential benefits and costs to society. As such, the purpose of this Work Assignment (WA) is to support EPA's efforts to improve its ability to monetize the benefits associated with these regulatory actions.

EPA wants to add to the body of existing valuation research as well as improve upon methodologies for translating policy decisions and the resulting estimates of water quality improvements into environmental services and ultimately monetized benefits. As part of this effort, EPA anticipates performing one or more revealed preference analyses. These analyses will either be recreational demand studies, hedonic property value studies or both. EPA also intends to do a comprehensive assessment of existing water quality models with regards to how well they address EPA's current and anticipated water quality modeling needs. The assessment will account for each model's temporal and spatial prediction scale, scope or water types modeled, output parameters, and potential for interoperability with Office of Water's (OW) water quality modeling platform



## Hydrologic and Water Quality System (HAWQS).

Under this work assignment the contractor shall conduct all analyses requiring the collection and manipulation of data and models in accordance with the EPA approved project quality assurance project plan (PQAPP). The PQAPP describes the procedures for assuring the quality of the secondary environmental and economic data used for this work assignment.

In carrying out the tasks specified in this work assignment, the contractor will continue and build upon work performed under WA 1-20 and WA 2-20 under Contract EP-C-13-039. The work performed under this work assignment will not duplicate work conducted under these previous work assignments.

Under the previous work assignments, Abt Associates performed the following tasks:

- ▶ Identifying and assembling surface water quality data sets to support case studies of the relationships between property values and surface water quality;
- ▶ Identifying and assembling information on available surface water quality models with potential utility for national and regional-scale environmental impact analyses;
- ▶ Identifying and assembling property transaction and property attribute data sets to support case studies of the relationships between property values and surface water quality;
- ▶ Writing a memo that describes potential approaches for using available information to create a methodology for assessing surface water quality effects on property values at a national scale;
- ▶ Writing a memo that describes potential approaches for using available information to create a methodology for assessing surface water quality effects on recreational use values at a large regional or national scale;
- ▶ Identifying and commissioning a group of subject matter experts to develop papers on various issues related to economic benefits transfer analyses;
- ▶ Initiating efforts to plan and support a workshop on economic benefits transfer issues;
- ▶ Developing design and planning memos, collecting existing data sets, and developing other preliminary products in support of a platform for facilitating estimation of benefits from surface water quality improvements at the national scale.

## **VII. General Requirements of the Work Assignment and Schedule**

Confidential Business Information: During the course of the work assignment, the contractor is not expected to be accessing and evaluating CBI. However, if such a need arises, the contractor shall adhere to EPA's CBI policy and other procedures as described in the contract clauses (Clauses H.15-H19 and H.21). The contractor must maintain CBI security clearance to use CBI information. The contractor shall not disclose any CBI to anyone other than EPA without prior written approval from the EPA WACOR. The contractor shall, at all times, adhere to Confidential Business Information (CBI) procedures when handling industry information. The contractor shall manage all reports, documents, and other materials and all draft documents

developed under this work assignment in accordance with the procedures set forth in our “Office of Science and Technology Confidential Business Information Application Security Plan” (August 2011) or its successor approved plans.

Budget Reporting: The contractor under this work assignment shall report to the EPA WACOR and Contract Level Contracting Officer Representative (CL-COR) when 75 percent of the total work assignment funding amount has been depleted. The contractor must also report to the EPA WACOR when 75 percent of the approved work plan budget has been depleted.

Identification as Contracting Staff: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency’s official representative. When speaking with the public, the contractor shall refer all interpretations of policy to the EPA WACOR.

Limitation of Contractor Activities: The contractor shall submit drafts of all deliverables to the EPA WACOR for review prior to submission of the final product. These drafts will clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor shall incorporate all EPA WACOR comments into all final deliverables, unless otherwise agreed upon by the EPA WACOR. The contractor shall adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), EPA CL-COR, and EPA WACOR.

Quick Response: Under this Performance Work Statement the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one to five working days.

Travel: The contractor shall be required to travel under this work assignment. Travel may be to participate with EPA in on site data collection, in meetings with trade associations, and to meet with EPA to discuss methodology and other important issues associated with the project. A request for approval for any travel directly chargeable to this work assignment must be submitted and approved by the CL-COR before travel begins.

Conferences and Workshops: The contractor shall immediately alert the EPA WACOR to any anticipated event under the work assignment which may result in incurring an estimated \$20,000 or more cost, funded by EPA, specific to that event, meeting, training, retreat, seminar, symposium, etc. Those costs would include travel of both prime and consultant personnel, planning and facilitation costs, including all outlays for conference preparation, AV and rental of venue costs, promotional items, supplies, etc. The EPA WACOR will then prepare for approval the internal paperwork for the event and will provide it to the CO. The CO will advise the contractor when appropriate signatures have been obtained and they are authorized to incur cost. At that point, effort can proceed for the event. If the event is being sponsored by another EPA organization, the organization providing the planning is responsible for the approval.

Deliverable Formatting: All memos, draft comments, summaries and responses, and chapters are to be provided in electronic form using Word and/or Excel/Access, ArcView, or, in special cases another software program agreed to by EPA. Memos are to be written in a manner which will make them easy to turn into draft chapters for the Final Report. For deliverables that are in Word or pdf versions of Word documents, that are intended to be shared with management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether decimal places are reported or not. All final materials, e.g., memos, chapters, etc. are to be prepared only after receiving written technical direction from the EPA WACOR and will be formatted to be in compliance with the Section 508 Amendment to the Rehabilitation Act of 1973.

## **VIII. Performance Work Statement**

### **Task 1 - Prepare Work Plan**

The contractor shall prepare a work plan within 15 calendar days of receipt of the work assignment signed by the CO. The work plan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WACOR, the CL-COR and the CO will review the work plan. However, only the CO can approve/disapprove, suggest revisions, or change the work plan. Official revisions will be given to the contractor by the CO. The contractor shall prepare a revised work plan incorporating the CO's comments, if required.

A weekly update call with the EPA WACOR will be required for this WA to discuss progress on deliverables and other potential issues.

### **Deliverables and Schedule under Task 1**

**1a. Workplan within 15 calendar days of receipt of WA.**

**1b. If required, revised workplan within 7 calendar days of receipt of comments from the Contracting Officer.**

### **Task 2 - Quality Assurance (QA)**

#### ***2.1 Background***

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1 A2 (May 2000), and implementing guidance CIO-2105-P-01-0 (May 2000). All projects that involve the generation, collection, analysis, and use of environmental data must have an approved Quality Assurance Project Plan (QAPP) in place prior to the commencement of the work. Examples of these environmental data operations are provided in **Table 1-1** below.

**Table 1-1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data**

Item	Examples
Data	Includes field sampling information (sample location information, flow measurements, temperature, pH, physical observations, etc.), laboratory measurements (e.g., chemical, physical, biological, radiological measurements), data collected from questionnaires, economic data, census data, and any other types of existing data (i.e., data generated for a different purpose or generated by a different organization)
Data generation	Includes field studies, laboratory studies, and generation of modeling output
Data collection	Includes field surveys, questionnaire surveys, literature searches, and third party data
Data evaluation	Includes data inspection, review, assessment, and validation
Data analysis	Includes statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models; database creation, data extraction, and data manipulation
Data Use	Any use of data to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, 304(m) program, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs)

Note that QAPPs are required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. (A model is set of equations and assumptions used to predict unknown data.) When existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model and explain how it will be used and how its output will be evaluated to ensure the modeling effort meets the overall quality objectives for the project. Development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria.

## ***2.2 QA Project Plan Requirements***

The contractor has previously prepared a contract-wide Programmatic QAPP (PQAPP) for Contract EP-C-13-039. This PQAPP describes, in a single document, information that is not site or time-specific, but applies throughout the program (i.e., the duration of the contract). When tasked with preparing the PQAPP, the contractor was informed that the PQAPP may need to be supplemented with project-specific details to support individual work assignments that involve the collection, generation, evaluation, analysis, or use of environmental data.

The activities in this WA involve gathering, evaluating, analyzing, and otherwise using existing environmental and economic data (also known as “secondary” use of data). EPA has determined that the contractor is operating under the existing PQAPP and that the PQAPP addresses QA requirements for this WA. In support of this WA, the contractor shall ensure that the work plan provides enough detail to clearly describe:

- Specific objectives of the project(s) supported by this WA such as researching data sources and models, evaluating and processing data, documenting data processing and quality, assembling, evaluating, and implementing model collections; assessment of model results;
- The type of data to be gathered or used under this WA to support the project objectives—including data from search engines, federal databases, and EPA data bases—as well as a

rationale for when those databases are appropriate and what data available in each will support the project;

- The quality objectives needed to ensure the data will support the project objectives; and,
- The quality assurance/quality control (QA/QC) activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.

**Table A-1** in the Appendix to this WA demonstrates how the PQAPP addresses QA requirements for this WA.

The contractor shall fill in staff roles to the Table A-1 checklist under Row A.4 and make any additional detailed notes in the ‘explanatory comments’ column as requested by the WACOR, when this information differs from the existing PQAPP (*Programmatic Quality Assurance Project Plan (PQAPP) for Economic, Environmental, and Regulatory Analytical and Evaluation Support for Clean Water Regulations* (Contract No. EP-C-13-039), December 21, 2015, Revision 2). When this information does not differ from the existing PQAPP the contractor should simply cite the PQAPP. The contractor shall then include the completed Table A-1 as a separate Appendix A to the work plan upon submittal to EPA. This Appendix A will be a stand-alone document when QA documentation is required to support EPA regulatory activities, therefore, the Table A-1 title must include the title of the WA, WA number, contract number, and what projects each covers. The WACOR has provided this information in the title, which the contractor may use to fulfill this requirement.

### ***2.3 Additional QA Documentation Required***

The EPA Quality Manual for Environmental Programs (CIO 2105-P-01-0, May 2000) requires published Agency reports containing environmental data to be accompanied by a readily identifiable section or appendix that discusses the quality of the data and any limitations on the use of the data with respect to their originally intended application. The EPA Quality Manual further requires Agency reports to be reviewed by the QA manager (or other authorized official) before publication to ensure that an adequate discussion of QA and QC activities is included. The purpose of the review is to ensure that the reports provide enough information to enable a knowledgeable reader to determine whether the technical and quality goals were met for the intended use of the data. Reports should include applicable statements regarding the use of any environmental data presented as a caution about possible misuse of the data for other purposes. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies (including the project goals and objectives, quality objectives and criteria, and QA/QC practices) that were employed to control and document the quality of data generated and used. These documents should also discuss any deviations from procedures documented in the EPA-approved QAPP(s) supporting the project, the reasons for those deviations, any impact of those deviations had on data quality, and steps taken to mitigate data quality issues.

In support of this Agency requirement, all major deliverables (e.g., Technical Support Documents, Study Reports, Analytical Methods) produced by the contractor under this WA must include a discussion of the QA/QC activities that were performed to support the deliverable. This discussion

must provide a sufficient level of detail to allow the Engineering and Analysis Division (EAD) QA Coordinator (or designee) to determine whether the QA/QC strategies implemented for the project sufficiently support the intended use of the data. Upon receipt, the EPA WACOR will review each applicable report and certify whether the contractor has adhered to the QA requirements documented in the contractor's PQAPP.

The contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this WA. These monthly QA reports shall identify QA activities performed to support implementation of this WA, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the contractor may include this report as a part of the contract-required monthly financial/technical progress report.

#### ***2.4 Data Quality Act/Information Quality Guidelines Requirements***

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis so that the information is capable of being substantially reproduced. To support compliance with these data transparency/data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. (This includes PQAPPs and SQAPPs.) The contractor may claim information in QAPPs as confidential; if the contractor chooses to do so, the contractor shall submit a sanitized (i.e., public) version and an unsanitized (i.e., confidential) version at the time the QAPP is submitted for approval by EPA. The sanitized version shall be included in the public docket for the applicable rulemaking (or other docket record), and the unsanitized version shall be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP shall be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the contractor should indicate which results were obtained using the tools (Standard Operating Procedures (SOPs), checklists, and guidelines) that the contractor designates as confidential so that the EPA WACOR can easily identify the areas that shall require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA WACOR, the contractor may be requested to prepare pre-dissemination review checklist as described in Section 5.5 of the Office of Water Quality Management Plan, March 2015. If this is required, the EPA WACOR will notify the contractor through written technical direction.

#### **Deliverables and Schedule under Task 2**

<b>Deliverable</b>	<b>Projected Schedule Date</b>
Monthly reports of QA work performed (may be included in the Contractor's monthly progress report)	Monthly throughout the WA period of performance



### **Task 3 - Adherence to the Standardized Naming Convention and Version Control**

The contractor shall adhere to the EPA WACOR approved standardized naming convention and version control (SNCVC) plan that was developed under the Construction and Development WA 0-01 of contract EP-C-07-023 (WA0-01\_T1\_SNCVC\_08.31.07\_V1.pdf). The contractor shall use this standardized convention for all deliverables associated with this work assignment.

The EPA WACOR may request the contractor through written technical direction to amend the SNCVC memorandum at any point under this WA. The EPA WACOR will review the revised memorandum and then provide the contractor with written notification of approval or edits that need to be made. The contractor shall prepare the edited SNCVC memorandum incorporating the EPA WACOR's comments, if required. After receiving notification of approval the contractor shall use the revised SNCVC.

#### **Deliverables and Schedule under Task 3**

**3a. Revised SNCVC memorandum within 3 calendar days of EPA WACOR technical direction.**

**3b. If additional edits are required the memorandum must be updated within 3 calendar days of receipt of comments from the EPA WACOR, at technical direction of EPA WACOR.**

### **Task 4 – Planning for National Water Quality Benefits Platform**

EPA is in the process of developing a software platform to facilitate and enhance the estimation of the benefits of surface water quality improvement. Under the previous WA 2-20 this work was divided between Task 13, which covered the planning work, and Task 14, which covered the actual development work. The development work covered under this work assignment is based on the planning work performed under the previous WA 2-20, and will result in the first working version of the model. Task 4 under this work assignment will cover the planning of future changes and updates to this first version. Specifically, the contractor shall undertake the following activities:

- Organize and facilitate meetings with EPA staff to discuss planning and design issues (minimum of one meeting per month) for version two of the model. In addition, EPA anticipates that up to six contractor staff will need to travel to Washington DC for a one day meeting to discuss planning for future versions of the National Water Quality Benefits Framework with EPA staff and managers.

- As requested through technical direction from EPA, develop additional memos, briefing materials, planning documents, and/or other summary materials in order to provide

information and options for EPA staff on issues relevant to future platform development. Development of these materials could require review and collection of existing literature and data sets. At this time, EPA anticipates requesting up to 5 documents.

#### **Deliverables and Schedule under Task 4**

**4a. Draft memos, briefing materials, planning documents, or other summary materials, each document delivered to EPA within 30 days of receiving technical direction from EPA WACOR.**

**4b. Revised memos, briefing materials, planning documents, or other summary materials, each document delivered to EPA within 15 days of receiving technical direction from EPA WACOR.**

#### **Task 5 – National Water Quality Benefits Platform Development**

Under this task, the contractor shall continue work begun under WA 2-20 on developing an initial version of a model that calculates economic benefits associated with improvements in water quality. This initial version of the model will not include water quality modeling components, but will be able to use outputs from existing water quality models, such as the Soil and Water Assessment Tool (SWAT) or HAWQS. The EPA WACOR anticipates that this initial version of the model will be a desktop application, although the storage of large data sets and computationally intensive calculations may need to be done externally, such as operations executed via a web-link.

The specific model elements to be addressed by the contractor under this task are provided in the three tables below. The table rows represent the five principal modules that are expected to comprise the model, while the table columns separate the elements of each module into inputs, functionality, and interface elements. Note that not all cells are filled, since some modules, such as Linking Populations to Waterbodies, may not require external inputs or display capabilities for this initial version. The contractor shall develop deliverable versions of the model so that it incorporates the elements specified in the deliverable table, progressing from Table 1 through Table 3 and culminating into what will become a final “version one” of the model. Some of the model elements in the first table were completed or at least initiated by the contractor under WA 2-20. Under this WA the contractor shall incorporate changes requested by the EPA WACOR to those model elements completed or initiated under the previous WA. The EPA WACOR will provide a description of the required changes through written technical direction to the contractor. The first deliverable under this WA shall be a version of the model that incorporates the elements contained in the Deliverable Table 2, any remaining Table 1 elements not completed under the previous WA, and the required changes provided through the said technical direction. Similarly, the EPA WACOR will then review the deliverable provided according to Table 2 and provide further written technical direction on any changes that are necessary. The contractor shall then deliver a version of the model that incorporates the elements contained in the Table 3, as well as the required changes based on the previous deliverable.

For each deliverable, the contractor shall deliver an executable file of the model that runs



on the Windows operating system. For each of the external data elements listed in the Input column of the deliverable table, the contractor shall deliver the data inputs or provide a way to access and work with this data from the Internet using the model interface. The contractor shall deliver a brief set of instructions (1-2 pages) for using the model with each deliverable as well.

After the EPA WACOR has reviewed and determined that the elements from the three tables have been sufficiently incorporated into the model, the WACOR will provide the contractor with technical direction to finalize version 1.0 of the model. To finalize version 1.0 the contractor shall conduct a thorough review of the model code and deliver a report identifying any issues found and what changes to the code or data sets were made to address them. Before beginning the review the contractor shall submit a testing and code review plan (1-2 pages) to the WACOR. Throughout the model development process the contractor shall document the model code with annotations and comments to facilitate eventual review. As final deliverable for this task, the contractor shall deliver the annotated model code with version 1.0 of the model, as well as a User's Manual (10-20 pages) for the model.

So that the EPA WACOR and platform sub-group can sufficiently assess progress and provide feedback during the development work for each deliverable, the contractor shall deliver 5 demonstrations, one for each module, using Adobe Connect. Each demonstration shall take approximately 30 minutes and focus on the module and how it fits within the larger model. The EPA WACOR anticipates there will be a need for 10-15 demonstrations under this WA. These demonstrations will primarily be for the platform sub-group and WACOR (5 people), but the contractor should anticipate that 3-4 of these demonstrations might be for the larger steering committee (16-18 people). For each deliverable, the contractor shall discuss with EPA deviations from the specifications provided in Table 2 or Table 3 that may be necessary to accomplish the model objectives. If agreed, the EPA WACOR will then issue written technical direction, as needed, to modify elements. The EPA WACOR and contractor shall discuss the schedule for the demonstrations, and the specific dates and times for each demonstration will be provided to the contractor by the EPA WACOR through written technical direction.

## **Deliverables and Schedule under Task 5**

**5a. The contractor shall participate in a weekly meeting with EPA to go over the progression of the development work and to discuss any deviation that may be necessary to the elements contained in Tables 1-3 to meet the model objectives and, if needed, changes in the deliverable dates.**

**5b. The contractor shall deliver 5 module demonstrations of the work to incorporate Table 2 elements using Adobe Connect or similar Web-facilitated meeting platform. The timing for these demonstrations shall be provided through written technical direction from the EPA WACOR.**

**5c. The contractor shall deliver an executable file, data sets, raw code, and set of instructions for the version of the model based on Table 2, within six weeks of receiving the work assignment unless the delivery date is extended by the WACOR through technical direction.**

**5d. The contractor shall deliver 5 module demonstrations of the work to incorporate Table 3 elements using Adobe Connect or similar Web-facilitated meeting platform. The timing for these demonstrations shall be provided through written technical direction from the EPA WACOR.**

**5e. The contractor shall deliver an executable file, data sets, raw code, and set of instructions for the version of the model based on Table 3, within 12 weeks of receiving the work assignment unless the delivery date is extended by the WACOR through technical direction.**

**5f. The contractor shall deliver a testing and code review plan within two weeks of delivering the Table 3 version of the model.**

**5g. The contractor shall deliver a code review report within two weeks of receiving technical direction from the WACOR, or another deadline specified by the WACOR through technical direction.**

**5h. The contractor shall deliver an executable file, data sets, annotated code, and user's manual for the final "version 1.0" of the model, within 4 weeks of delivering the code review report unless the delivery date is extended by the WACOR through technical direction.**

## Task 5 - Deliverable Table 1

Modules	Inputs	Functionality	Interface
<b>Characterize water bodies and water quality</b>	GIS layers for waters and associated watersheds, preferably at the HUC 12 scale for this deliverable. Can be limited to a region of the country (e.g. Chesapeake Bay Watershed) for this deliverable. The model shall allow for the import of water quality parameter data to estimate baseline conditions. The baseline should represent a specific year or a multi-year average using the same set of years. For this deliverable, use annual average values for suspended solids, nitrogen, phosphorus, fecal coliform, DO, and BOD as the water quality inputs.	Allow for the selection of a set of waters to be analyzed based on pre-established boundaries, such as watersheds or state borders. Allow the baseline conditions for these waters to be changed to represent a policy scenario. This could be a numeric or percentage change in baseline parameter measurements.	Display the waterbodies under consideration with GIS based framework.
<b>Characterize the economic endpoints</b>		Choose an economic endpoint for each water body under consideration from a suite of possible ways to value water quality. For this deliverable, allow for the use of either a single parameter or multiple parameters in the form of an index. For this deliverable the single parameter should be water clarity, and the index should be the version used for the Construction & Development ELG. Calculate the change in the valuation endpoint for all rivers and streams in the area of study using the baseline and policy scenario water quality parameters	
<b>Characterize the population</b>	Allow for the import of socio-economic parameters for the relevant population from an external dataset. For this deliverable, this can be limited to the parameters of: population, households, and income; and at the scale of county, census tract, and census block group.	Allow for the selection of the unit of observation for the population (e.g., census tract, zip code, census block, county, state, etc.)	Display the relevant population for the area in the GIS framework. This population may be more extensive (geographically speaking) than the stream network being modeled.
<b>Linking the population to the water</b>		Link the population unit of observation (e.g., zip code) to the water bodies under consideration for	

<b>Modules</b>	<b>Inputs</b>	<b>Functionality</b>	<b>Interface</b>
<b>bodies</b>		valuation. For this deliverable, the population and water bodies in the same geographical area are linked (e.g., the population within a state values the waters in that same state).	
<b>Valuation</b>		User should be able to choose from a suite of valuation approaches. For this deliverable, allow users to set a fixed willingness to pay (WTP) value used by all individuals or households for changes in the economic endpoint of linked water bodies. Allow for this fixed WTP value to be based on a per unit change for the economic endpoint (e.g. one point change on the WQI) or for the linked water meeting or exceeding a threshold value.	Display the valuation of the policy scenario in tabular or spreadsheet form.

## Task 5 - Deliverable Table 2

Modules	Input Availability	Functional Capabilities	Interface
<b>Characterize water bodies and water quality</b>		<p>Allow for the selection of a set of waters to be analyzed based on drawing a polygon or by defining a centroid and radius for a circle.</p> <p>Allow the user to select individual waters through the GIS interface, and then to change the baseline conditions for these specific waters to reflect a policy scenario.</p>	Display the baseline and policy scenario water quality conditions in the GIS framework using a color scheme or bar graphs.
<b>Characterize the economic endpoints</b>			Display the baseline and policy scenario valuation endpoint in the GIS framework using a color scheme or bar graphs.
<b>Characterize the population</b>	Allow for the import of socio-economic parameters for analyzing environmental justice concerns For this deliverable this can be limited to the proportion of households below the poverty line, the proportion of minorities, and children. The scale should include the three geographic units in deliverable one, but also include zip codes and census blocks.		Display the demographic characteristics of the relevant population in the GIS framework using a color scheme or bar graphs.
<b>Linking the population to the water bodies</b>		For this deliverable, allow for linking the units of observation for population to all the waters within a radius (e.g. 100 miles) that is set by the users.	
<b>Valuation</b>		User should be able to choose from a suite of valuation approaches, one of which should be a WTP function based on a study or meta-analysis. For this deliverable, the function should be based on MRM2-S from the Steam Electric ELG.	Display the valuation of the policy scenario in both the GIS framework using a color scheme or bar graphs.

### Task 5 – Deliverable Table 3

Modules	Input Availability	Functional Capabilities	Interface
<b>Characterize water bodies and water quality</b>	Waterbodies and associated watersheds for the contiguous 48 states at HUC 12 scale. NHD medium resolution scale, if sufficiently available for the 48 states.	<p>Allow the change in baseline conditions for waters due to a policy scenario to be represented based on an external dataset, such as HAWQS modeling results.</p> <p>Allow simulation of a transition period for policy implementation (i.e. gradual change from baseline to policy option over multiple time steps.)</p> <p>Allow for alternative time steps (seasonal, monthly, etc.)</p>	
<b>Characterize the economic endpoints</b>		For this deliverable, add the option of using a threshold based on some water quality criteria (e.g. a “designated use criteria,” a “Human Health Water Quality Criteria,” an “Aquatic Life Ambient Water Quality Criteria,” etc.) to represent the water quality economic endpoint.	
<b>Characterize the population</b>			
<b>Linking the population to the water bodies</b>		For this deliverable, allow for linking the relevant population units to all the waters being analyzed.	
<b>Valuation</b>		For this deliverable, the user should be able to specify a function which includes four different types of parameters. 1) Socio-economic characteristics (e.g., income, age, etc.). 2) Characteristics of the water body (e.g., length of the reach, river or lake, etc.). 3) The number of different waterbodies affected. 4) Distance to the waterbody. The user should have the ability to set: a minimum and maximum distance, outside of which no valuation is applied; and a distance decay parameter which can be multiplied or exponentiated to the distance to diminish the willingness to pay value as distance increases.	

## **Task 6 – Benefits Transfer Papers**

EPA is investigating approaches to improving the quality of benefits transfer techniques. Under the previous WAs 1-20 and 2-20, the contractor initiated effort on this task by assisting in recruiting a senior scholar to help with the development of a series of papers on benefits transfer issues. The contractor also assisted in recruiting and commissioning a group of leading scholars to develop a series of papers on benefits transfer issues. The scholars developed paper outlines and initiated work on developing complete papers under WA 2-20. Under this WA, the scholars shall produce final versions of their papers. The contractor shall provide copies of the final version of each paper to the EPA WACOR.

### **Deliverables and Schedule under Task 6**

**6. Provide copies of the final version of all papers to the EPA WACOR by November 9, 2016.**

## **Task 7 – Workshop Support**

Under WA 2-20, the contractor began assisting EPA in making arrangements for a workshop on Approaches to Benefits Transfer, which will occur in December 2016. The contractor assisted EPA with recruiting a senior scholar to chair the workshop. The contractor also assisted EPA in engaging and recruiting leading scholars to report on their own and others' research and to speak to benefits transfer issues for practitioners. The contractor also worked with EPA in identifying five other leading scholars who will serve as discussants of benefits transfer issues at the workshop.

Under this WA the contractor shall assist EPA in identifying and making arrangements for 8 - 12 additional experts to serve as panelists for discussions at the workshop. The contractor shall also assist EPA in conducting the workshop at which experts will present papers and all workshop participants will discuss approaches to benefits transfer.

Under this task, the contractor shall provide planning support for the workshop. Approximately 65 participants (including the Chair, paper authors, discussants, expert panelists, and EPA staff) will attend the workshop in person. Under WA 2-20, the contractor assisted EPA in identifying an appropriate venue for the conference. The contractor shall ensure that the meeting location has the appropriate audio/video capabilities or that alternate arrangements can be made (e.g., bringing in equipment). The contractor shall make all necessary arrangements to secure a hotel room block for all invited experts at the government rate in close proximity to the workshop location. The contractor shall also make arrangements to provide for the travel expenses of invited expert workshop participants.

The contractor shall develop a registration process to organize the list and pertinent details of invited experts and EPA attendees. The contractor shall develop the invitee list through consultation with the EPA WACOR. The EPA WACOR shall provide a list of EPA invitees to the contractor. The contractor shall issue invitations to all invitees and keep a list of responses received. The contractor shall utilize an approved online registration platform to track invitees. Registration will be tracked and reported to the EPA WACOR on a weekly basis. If an invitee does not respond within 2 weeks of receiving the invitations, the contractor shall send a reminder email to the invitee. If the invitee does not respond within a week of receiving the reminder email, the contractor shall rescind the invitation. If vacancies arise as a result of some invitees being unable to attend, the EPA WACOR may ask the contractor to extend and track additional invitations. Additional invitees will be identified through consultation with

the EPA WACOR.

The contractor shall develop and/or prepare all necessary materials prior to the workshop, such as nametags, copies of the agenda, and other handouts. The contractor shall consult with the EPA WACOR on the content of the agenda and other materials to be provided to workshop participants and incorporate any comments from the EPA WACOR prior to finalizing and producing copies of the materials.

The contractor shall provide all on-site logistical support required for conducting the workshop at the selected venue. The contractor shall organize and execute the workshop registration process and provide for the distribution of the workshop agenda and other workshop materials. The contractor shall facilitate execution of the meeting based on the meeting agenda. The contractor shall support documentation of the workshop by measures such as providing note takers with sufficient subject matter expertise and arranging for audio recording as backup. The contractor shall provide support for the use of audio/visual equipment, including ascertaining its functionality before the workshop begins on each workshop day. The contractor shall assist in participants' use of the meeting facility including use of the audio/video equipment. If directed by the EPA WACOR, the contractor shall also set up and manage telephonic and/or internet connections for EPA employees to attend remotely.

The contractor shall also support workshop follow-up activities such as providing copies of the presentations, a list of attendees, and potentially other materials to meeting participants. The contractor shall develop a compilation of the proceedings using notes, recordings, and other documentation to document expert presentations, points of discussion, and outcomes achieved including any action items for future consultation. The contractor shall provide a draft version of the compilation to the EPA WACOR for review and comments. The contractor shall incorporate comments from the EPA WACOR in the final version of the compilation.

#### **Deliverables and Schedule under Task 7**

- 7a. Set up and activate workshop invitation material on an approved online registration platform and issue initial invitations by September 12, 2016. Issue additional invitations based on written technical direction from the EPA WACOR.**
- 7b. Provide weekly reports to EPA on workshop invitation response status.**
- 7c. Provide final list of workshop participants to EPA by November 21, 2016.**
- 7d. Provide to EPA draft versions of agenda and any other materials to be provided to workshop participants by November 14, 2016.**
- 7e. Provide to EPA final versions of agenda and any other materials to be provided to workshop participants by November 28, 2016.**
- 7f. Based on written technical direction from EPA WACOR, arrange for telephonic and/or internet workshop access and provide access instructions to EPA by November 28, 2016.**
- 7g. Provide to EPA a draft version of workshop compilation by January 9, 2017.**



**7h. Provide to EPA a final version of workshop compilation within 14 days of receipt of EPA comments on draft version.**

#### **Task 8 – Methodological and Analytical Support for Benefits Valuation Analyses**

The EPA WACOR also anticipates the need for the contractor to produce up to 5 written memoranda, each approximately 10 - 30 pages in length. These memoranda would address specific issues that may arise during the development of the benefits valuation methodologies. The specific content and deliverable dates will be provided to the contractor by the EPA WACOR through written technical direction when the need for a memorandum arises.

#### **Deliverables and Schedule under Task 8**

**8. Written memoranda as specified through written technical direction from EPA WACOR.**

#### **Task 9 – Subgroup Meeting Summaries**

The EPA WACOR also anticipates that the contractor shall meet with the each of the subgroups (hedonic property value, recreational demand, water quality data and modeling, and workshops) by telephone on a regular basis. The contractor shall take meeting notes for each of these calls and produce a summary of topics discussed, concerns raised, conclusions made, and next steps agreed to. The contractor shall deliver these meeting summaries to the subgroup members as well as to the EPA WACOR and Alternate EPA WACOR within seven calendar days of each meeting.

#### **Deliverables and Schedule under Task 9**

**9. Meeting Summaries delivered to subgroup members, EPA WACOR, and Alternate EPA WACOR within 7 business days of each subgroup meeting.**

## Appendix

### EAD Checklist for Projects Utilizing Existing Data

The items noted in this checklist are adapted from those elements found in *EPA Requirements for QA Project Plans (QA/R-5)* (EPA, 2001a), but tailored to the use of existing data.

**Table A1. QAPP Elements Applicable to WA 3-20 (“Analytical Support for EPA Cross Office Water Benefits Work”) of Contract EP-C-13-039 for Projects Utilizing Existing Data**

QAPP Element	Sufficiently Addressed in PQAPP	Not Applicable to Project	Explanatory Comments
<b>A1. Title &amp; Approval Sheet</b>			
Project title			Analytical Support for EPA Cross Office Water Benefits Work
Organization's name	X		
Effective date and/or version identifier	X		
Dated signature of Organization's project manager	X		
Dated signature of Organization's QA manager	X		
Other signatures, as needed (e.g., EAD Project Officer, EAD QA Coordinator)	X		
Revision History	X		
<b>A2. Table of Contents</b>			
Includes sections, figures, tables, references, and appendices	X		PQAPP pp. vii-viii
Document control information indicated (when required by the EPA Project Manager and QA Manager)	X		
<b>A3. Distribution List</b>			
Includes all individuals who are to implement or otherwise receive the QAPP and identifies their organization	X		PQAPP p. iv
<b>A4. Project/Task Organization</b>			
Identifies key individuals with their responsibilities (e.g., data users, decision makers, project QA manager, Subcontractors, etc.) and contact info.	X		PQAPP section 2.1 <i>List specific people identified for the following roles:</i> PQA: Abt WAM: EPA WACOR: Michael Trombley
Organization chart shows lines of authority & reporting responsibilities	X		PQAPP Section 2.1
Project QA manager position indicates independence from unit collecting/using data	X		PQAPP Section 2.1
<b>A5. Problem Definition/Background</b>			
Clearly states problem to be resolved, decision to be made, or hypothesis to be tested	X		PQAPP Section 2.2 and address in Work Plan.
Identifies project objectives or goals	X		PQAPP Table 2.2 and address in Work Plan.
Historical & background information	X		PQPP Section 2.2 and address in Work Plan.

<b>QAPP Element</b>	<b>Sufficiently Addressed in PQAPP</b>	<b>Not Applicable to Project</b>	<b>Explanatory Comments</b>
Cites applicable technical, regulatory, or program-specific quality standards, criteria, or objectives	X		PQAPP Section 2.2 and address in Work Plan.
<b>A6. Project/Task Description</b>			
List measurements to be made/data to obtain	X		PQAPP Section 2.3, and address in Work Plan.
Notes special personnel or equipment requirements	X		PQAPP Section 2.5
Provides work schedule		X	Addressed in Work Plan. No set dates or work sequence.
<b>A7. Overall Quality Objectives &amp; Criteria</b>			
States overall quality objectives and limits needed to support the project goals and objectives cited in A5	X		PQAPP Section 2.4 and address in Work Plan.
<b>A8. Special Training Requirements/ Certifications</b>			
Identifies specialized skills, training or certification requirements	X		PQAPP Section 2.5
Discusses how this training will be provided/the necessary skills will be assured and documented	X		PQAPP Section 2.5
<b>A9. Project-level Documents &amp; Records</b>			
Describes process for distributing the approved QAPP and other planning documents (and updates) to staff	X		PQAPP p. iv and Section 2
Identifies final work products that will result from the project	X		PQAPP Section 2.6 and address in Work Plan.
Describes the process for developing, reviewing, approving, and disseminating the final work products and individuals responsible for these processes	X		PQAPP Section 2.6 and address in Work Plan.
<b>B1. Data Needs</b>			
Detailed list/description of the specific data elements needed to support project goals	X		PQAPP Table 3-1 and address in work plan.
Description of the scope of the data elements that you need (e.g., data supporting specific treatment options vs. the full range of options, data supporting the entire country vs. a specific geographic region)	X		PQAPP Table 3-1 and address in work plan.
If project includes development or update of a project database, QAPP identifies and defines each database field	X		
<b>B2. Potential Data Sources</b>			
Identifies and describes potential sources of the existing data needed (e.g., photographs, topographical maps, facility or state files, census data, meteorological data, publications, etc.) and the rationale for their use	X		PQAPP Section 3.1.2 and address in Work Plan.
If literature searches are used, describes the search engines that will be used and key search terms	X		PQAPP Section 3.1.2

<b>QAPP Element</b>	<b>Sufficiently Addressed in PQAPP</b>	<b>Not Applicable to Project</b>	<b>Explanatory Comments</b>
If databases or models will be used, describe the database (or model) in terms of who developed it and operates it and the type of data it contains			PQAPP Section 3.1.2
For other potential sources, describe the potential sources & rationale for considering or using each one			PQAPP Section 3.1.2
<b>B3. Criteria for Selecting Data Sources</b>			
Identifies each criterion that will be used to determine if the candidate data sources listed in B2 will meet your needs, and how each criterion is defined. (Criteria vary by project; examples include reliability, age, applicability, quantity, format, and others)	X		PQAPP Section 3.1.3
Explains rating system used to evaluate source against each criterion		X	
<b>B4. Data Value Selection Approach</b>			
For data sources that meet the criteria identified in B3: Describes the criteria and procedures that will be used to determine which value(s) identified in the acceptable sources are most appropriate for use in the project	X		PQAPP Section 3.1.4
For data that do not meet these pre-established criteria but are the only data available, explains how the decision to use such data will be made and documented		X	
<b>B5. Resolving Data Gaps</b>			
Describes the process for identifying and addressing data gaps that still exist after candidate data sources have been evaluated and appropriate data values have been identified	X		PQAPP Section 3.1.5
Describes the process that will be used to address any new data needs revealed during the data gathering process (i.e., additional data elements not previously considered)		X	
<b>B6. Data Gathering Documentation and Records</b>			
Describes how results of the source selection and the data value selection will be documented, including any sources or values that were rejected and the rationale for not using them	X		PQAPP Section 3.1.6 (p. 49) and Section 4.1.1
For data that are deemed acceptable and that will be used, explains how each data element will be associated to its original source citation (i.e., bibliographic information, telephone contact reports, email messages, etc.)	X		PQAPP Section 3.1.6, p. 49
<b>C1. Standardization of Data Elements</b>			
Describes the process to ensure that units and other key measures are captured and standardized (or otherwise made comparable) in the database	X		PQAPP Section 3.2.1

<b>QAPP Element</b>	<b>Sufficiently Addressed in PQAPP</b>	<b>Not Applicable to Project</b>	<b>Explanatory Comments</b>
If the project requires that all fields be standardized to a single set of units (e.g., US dollars for economic data, µg/L for chemical data), identifies the standard units that will be required for each data element	X		PQAPP Section 3.2.1
Identifies the procedures for converting data reported in other units to the standardized units, including any rounding or truncating procedures, and procedures for ensuring these conversions are performed correctly	X		PQAPP Section 3.2.1
If standardization of data elements is not needed, explains the process for ensuring that data presented in varying units are comparable enough for use in the project and that project staff members and other data users will be able to readily identify differences in units	X		PQAPP Section 3.2.1
<b>C2. Data Entry</b>			
Explains the process for manually entering selected data into the project database, who will be responsible for such data entry, and the QC strategies that will be used to ensure that the database accurately and completely captures the data as presented in the original source	X		PQAPP Section 3.2.2
<b>C3. Merging or Uploading Electronic Data from Existing Sources</b>			
If data are available electronically and will be uploaded or merged into the project database: describes the procedures that will be followed to ensure that errors are not introduced during the upload/merge process and that the final database reflects the original dataset(s)	X		PQAPP Section 3.2.3
<b>C4. Data Review</b>			
Describes the process for ensuring that the data have been recorded, transmitted, and processed correctly	X		PQAPP Section 3.2.4
<b>C5. Data Storage and Manipulation</b>			
Describes how the existing data will be stored	X		PQAPP Section 3.2.5
Describes who will be responsible for access to and maintenance of the stored data	X		PQAPP Section 3.2.5
Describes how the existing data will be incorporated with other project data to support the project goal/decision to be made	X		PQAPP Section 3.2.5
Describes the QC strategies that will be employed to ensure that the integrity of the data is not compromised during data storage, access/retrieval, updates, or other manipulation	X		PQAPP Section 3.2.5
<b>D1. Data Quality Verification and Data Quality Reporting</b>			
Describes the process for verifying that the final set of data meets the overall criteria originally specified for the project	X		PQAPP Section 3.3.1

<b>QAPP Element</b>	<b>Sufficiently Addressed in PQAPP</b>	<b>Not Applicable to Project</b>	<b>Explanatory Comments</b>
Describes how these determinations will be documented and reported	X		PQAPP Section 3.3.1
For data that don't meet the pre-established specifications, explains the process for determining if they are usable and how such decisions will be documented	X		PQAPP Section 3.3.1
<b>D2. Use/Analysis of the Existing Data</b>			
Provides details regarding the exact means in which the data will be used to meet project objectives	X		PQAPP Section 3.3.2
Includes an explanation or list of the information to be calculated and the data elements that will be used to make those calculations	X		PQAPP Section 3.3.2
Includes applicable calculations and equations (if known) or explanations of how they will be developed	X		PQAPP Section 3.3.2
Includes plans for excluding outliers	X		PQAPP Section 3.3.2
<b>D3. Methodology Documentation and Conceptual Review</b>			
If exact methodologies for analyzing the data will need to be developed or modified during the course of data analysis, explains the process by which such methodologies will be documented, who is responsible for reviewing/approving their use, and how the methodologies will be checked to ensure they yield the desired products	X		PQAPP Section 3.3.3.
<b>D4. Technical Review of the Data Analysis</b>			
Describes activities that will be used to ensure the data analyses are being implemented as specified and will support project objectives	X		PQAPP Section 3.3.4
Explains procedures for identifying and notifying appropriate personnel if changes to the originally planned procedures are warranted, and the process for approving, documenting and implementing such changes	X		PQAPP Section 3.3.4
<b>D5. Final Verification of Data Analysis and Reconciliation with User Requirements</b>			
Describes the process for reviewing the final work product to ensure that the work was generated in accordance with the QAPP, and that the work product addresses the overall project goals and objectives	X		PQAPP Section 3.3.5
Describes how the results of this assessment will be documented	X		PQAPP Section 3.3.5
Describes how any limitations of the data or data analyses that were used to prepare the final work product will be documented and communicated	X		PQAPP Section 3.3.5

<b>EPA</b> United States Environmental Protection Agency Washington, DC 20460 <b>Work Assignment</b>						Work Assignment Number 3-20				
						<input type="checkbox"/> Other <input checked="" type="checkbox"/> Amendment Number: 000001				
Contract Number EP-C-13-039			Contract Period   09/11/2013   To   07/31/2017 Base                      Option Period Number       3			Title of Work Assignment/SF Site Name Analytic Support for EPA Cross				
Contractor ABT ASSOCIATES INC.					Specify Section and paragraph of Contract SOW Paragraphs B.1, C.1, and G					
Purpose: <input type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input checked="" type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval					Period of Performance  From   08/03/2016   To   07/31/2017					
Comments: This amendment changes the Primary WACOR. A work plan is not required.										
<input type="checkbox"/> Superfund                                              Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
SFO <input type="checkbox"/> Note: To report additional accounting and appropriations date use EPA Form 1900-69A. (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:                      Cost/Fee:                      LOE: 09/11/2013   To   07/31/2017										
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:                      Cost/Fee                      LOE:										
Cumulative Approved:                      Cost/Fee                      LOE:										
Work Assignment Manager Name   Michael Trombley  <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: 202-564-3906 FAX Number:			
Project Officer Name   Ahmar Siddiqui  <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: 202-566-1044 FAX Number:			
Other Agency Official Name  <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: FAX Number:			
Contracting Official Name   Tammy Adams <div style="display: flex; justify-content: space-between;"> <div> <b>TAMMY ADAMS</b>          Digitally signed by TAMMY ADAMS          DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff,          cn=TAMMY ADAMS, dnQualifier=0000018417          Date: 2016.08.03 08:30:29 -0400          _____          (Signature)       </div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: 513-487-2030 FAX Number: 513-487-2545			

## **WORK ASSIGNMENT AMENDMENT**

I. **Title:** Analytic Support for EPA Cross Office Water Benefits Work

**Contractor:** Abt Associates, Inc.

**Contract No.:** EP-C-13-039

II. **Work Assignment Number:** 3-20 / Amendment 1

III. **Estimated Period of Performance:** Amendment Approval to July 31, 2016

IV. **Estimated Level of Effort for Amendment:** 0 hours

V. **Purpose**

The purpose of this amendment is to change the Work Assignment Contracting Officers Representative (WACOR) from Joel Corona to Michael Trombley. Ashley Allen will continue to serve as the Alternate WACOR.

Contact information for Michael Trombley is as follows:

Michael Trombley  
OW/IO/WPS (4101M)  
(202) 564-3906

This amendment changes neither the level of effort nor the total cost of the work assignment. All tasks remain unchanged.



<b>EPA</b> United States Environmental Protection Agency Washington, DC 20460 <b>Work Assignment</b>						Work Assignment Number 3-20	
						<input type="checkbox"/> Other <input checked="" type="checkbox"/> Amendment Number: 000001	
Contract Number EP-C-13-039		Contract Period 09/11/2013 To 07/31/2017		Title of Work Assignment/SF Site Name			
		Base                      Option Period Number      3		Analytical Support for EPA Cro			
Contractor ABT ASSOCIATES INC.				Specify Section and paragraph of Contract SOW Paragraphs B1, C1, and G			
Purpose: <input type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input checked="" type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval				Period of Performance  From 08/03/2016 To 07/31/2017			
Comments:							
<input type="checkbox"/> Superfund                      Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund							
SFO <input type="checkbox"/> (Max 2)                      Note: To report additional accounting and appropriations date use EPA Form 1900-69A.							
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)      (Cents)      Site/Project (Max 8)      Cost Org/Code
1							
2							
3							
4							
5							
Authorized Work Assignment Ceiling							
Contract Period:		Cost/Fee: \$0.00		LOE: 0			
09/11/2013 To 07/31/2017							
This Action:		\$475,485.00		2,480			
Total:		\$475,485.00		2,480			
Work Plan / Cost Estimate Approvals							
Contractor WP Dated: 08/18/2016		Cost/Fee \$475,485.00		LOE: 2,480			
Cumulative Approved:		Cost/Fee \$475,485.00		LOE: 2,480			
Work Assignment Manager Name Michael Trombley						Branch/Mail Code:	
_____ (Signature)                      (Date)						Phone Number: 202-564-3906	
						FAX Number:	
Project Officer Name Ahmar Siddiqui						Branch/Mail Code:	
_____ (Signature)                      (Date)						Phone Number: 202-566-1044	
						FAX Number:	
Other Agency Official Name						Branch/Mail Code:	
_____ (Signature)                      (Date)						Phone Number:	
						FAX Number:	
Contracting Official Name Tammy Adams						Branch/Mail Code:	
<b>TAMMY ADAMS</b> Digitally signed by TAMMY ADAMS DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=TAMMY ADAMS, dnQualifier=0000018417 Date: 2016.09.01 08:00:11 -04'00' _____ (Signature)                      (Date)						Phone Number: 513-487-2030	
						FAX Number: 513-487-2545	

Work Assignment Form. (WebForms v1.0)

## **WORK ASSIGNMENT AMENDMENT**

I. **Title:** Analytic Support for EPA Cross Office Water Benefits Work

**Contractor:** Abt Associates, Inc.

**Contract No.:** EP-C-13-039

II. **Work Assignment Number:** 3-20 / Amendment 2

III. **Estimated Period of Performance:** Amendment Approval to July 31, 2017

IV. **Estimated Level of Effort for Amendment:** 0 hours

V. **Purpose**

The purpose of this amendment is to specify the type of internet workshop access which is going to be utilized during the workshop and provide clarity as to the nature of on-site support provided by Abt Associates, Inc.

The contractor shall not provide note takers for the on-site meeting. The contractor shall provide on-site logistic support for registration and other aspects of facilitating the meeting and participants' use of the meeting facilities as described in the original work plan.

The contractor shall also arrange for webinar-type access to the workshop for remote attendees and shall record the meeting proceedings in electronic format using capabilities in the webinar software.

This amendment changes neither the level of effort nor the total cost of the work assignment.

<b>EPA</b> United States Environmental Protection Agency Washington, DC 20460 <b>Work Assignment</b>		Work Assignment Number 3-22								
		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-C-13-039	Contract Period   09/11/2013   To   07/31/2017 Base                      Option Period Number      3	Title of Work Assignment/SF Site Name Economics Support for Dental								
Contractor ABT ASSOCIATES INC.		Specify Section and paragraph of Contract SOW Section VI, paragraphs 1, 2, and 3								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance  From   08/01/2016   To   07/31/2017								
Comments: Performance on this Work Assignment shall not begin until August 1, 2016.										
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Superfund         <span>Accounting and Appropriations Data</span> <input checked="" type="checkbox"/> Non-Superfund       </div>										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO <input type="checkbox"/> (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:		LOE:						
09/11/2013 To 07/31/2017				0						
This Action:				310						
Total:				310						
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:		Cost/Fee		LOE:						
Cumulative Approved:		Cost/Fee		LOE:						
Work Assignment Manager Name   Karen Milam  <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 202-566-1915 FAX Number:				
Project Officer Name   Ahmar Siddiqui  <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 202-566-1044 FAX Number:				
Other Agency Official Name  <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: FAX Number:				
Contracting Official Name   Tammy Adams <div style="display: flex; justify-content: space-between;"> <div> <b>TAMMY ADAMS</b>            Digitally signed by TAMMY ADAMS            DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=TAMMY ADAMS, dnQualifier=0000018417            Date: 2016.07.21 16:54:50 -04'00'         </div> <div>_____ (Signature)</div> </div>						Branch/Mail Code: Phone Number: 513-487-2030 FAX Number: 513-487-2545				

**Contract No.: EP-C-13-039**  
**Work Assignment: 3-22**

- I. Title:** Economics Support for the Dental Amalgam Effluent Limitations Guidelines and Standards (ELG) Rulemaking

**Contractor:** Abt Associates

**Contract No.:** EP-C-13-039

- II. Work Assignment Number:** 3-22
- III. Estimated Period of Performance:** August 1, 2016 to July 31, 2017
- IV. Estimated Level of Effort:** 310 hours
- V. Key EPA Personnel:**

**Work Assignment Contracting Officer Representative (WACOR):**

Karen Milam  
OST/EAD (4303T)  
Phone: (202) 566-1915  
Fax: (202) 566-1053  
Email: [milam.karen@epa.gov](mailto:milam.karen@epa.gov)

**Alternate Work Assignment Contracting Officer Representative (WACOR):**

Damon Highsmith  
OST/EAD (4303T)  
Phone: (202) 566-2504  
Fax: (202) 566-1053  
Email: [highsmith.damon@epa.gov](mailto:highsmith.damon@epa.gov)

**VI. Background and Purpose:**

The Environmental Protection Agency (EPA) Administrator signed the proposed Dental Amalgam ELG on Sept. 23, 2014, to require dental facilities to reduce discharges of mercury to the environment. According to the National Association of Clean Water Agencies (NACWA), dental facilities are the main source of mercury discharges that enter state and municipal wastewater treatment plants (publicly owned treatment works (POTWs)). A study funded by the American Dental Association (ADA) estimated in 2003 that dental offices accounted for 50 percent of mercury entering POTWs. In addition, EPA estimates that approximately 160,000 dentists work in more than 120,000 dental offices that use or remove amalgam in the United States, almost all of which discharge their wastewater exclusively to POTWs. EPA further estimates that dentists discharge approximately 4.4 tons of mercury each year to POTWs, many of which are working towards reducing discharges of mercury to their facilities.

Mercury is a human health concern because it is a persistent bioaccumulative toxic element. Mercury-containing amalgam waste enters the environment when new fillings are placed or old mercury-containing

fillings are drilled out and waste amalgam materials that are flushed into chair-side drains enter the wastewater stream. A portion of the waste amalgam particles that reach the sewer system settles out in the sewers, and a portion is carried to POTWs. The physical processes used in POTWs remove about 90 percent of the mercury received in wastewater. The mercury removed from wastewater then resides in the biosolids or sewage sludge generated during primary and secondary treatment processes.

EPA conducted a study of this industry as part of its 2006 Effluent Guidelines Plan. The Health Services Industry Detailed Study Report for Dental Amalgam (EPA-821-R-08-014) was completed in August 2008 (see [http://water.epa.gov/lawsregs/lawsguidance/cwa/304m/upload/2008\\_09\\_08\\_guide\\_304m\\_2008\\_hsi-dental-200809.pdf](http://water.epa.gov/lawsregs/lawsguidance/cwa/304m/upload/2008_09_08_guide_304m_2008_hsi-dental-200809.pdf)). The 2008 study included a profile of the industry, information on the types and effectiveness of amalgam separators available, information on mercury discharges from dental offices and information on existing state and local amalgam separator requirements. The agency focused its technology assessment in the proposed rule on amalgam separators.

The 1972 Clean Water Act (CWA) directs EPA to develop national technology-based regulations for categories of industries that discharge pollutants directly to surface waters (effluent guidelines) or that discharge pollutants indirectly through sewage treatment plants (pretreatment standards). The CWA also directs EPA to develop national technology-based regulations for new industrial facilities (new source performance standards).

The purpose of this work assignment (WA) is to provide continued economics and rulemaking support for completion of the Final Dental Amalgam ELG rule. EPA expects to finalize the rule in December 2016. The rulemaking schedule was extended beyond the previously expected signature date of fall 2015 in part because EPA received significant public comments on the proposed rule. These comments will require EPA to revisit numerous significant aspects of the rule, which in turn will require revisions to the economic analysis and related sections of the preamble for the final rule.

Under this work assignment, the contractor shall conduct all analyses requiring the collection and manipulation of data and models in accordance with the EPA-approved quality assurance (QA) project plan that was based on Task 2 QAPP language. The QAPP shall describe the procedures for assuring the quality of the primary and existing economic data used for this work assignment.

In carrying out the tasks specified in this work assignment, the contractor shall build upon and continue work the contractor performed under WA 1-22 and 2-22 of this contract and WA 3-05 Task 7, and WA 4-05, of Contract EP-C-07-023. The work performed under this work assignment shall not duplicate work conducted under the previous work assignments.

Under the previous work assignment(s), Abt Associates performed the following analyses, among others:

- Drafted economic impacts and cost-effectiveness chapters with underlying analyses in the proposed rule TEDD (Technical and Economic Development Document) (EPA-821-R-14-006).
- Updated the analyses for the economic impacts and cost-effectiveness for the final rule under WA 2-22.
- Drafted economic impacts and cost-effectiveness sections of the preamble for the proposed rule.

## **VII. General Requirements of the Work Assignment and Schedule**

Confidential Business Information: During the course of the work assignment, the contractor will be accessing and evaluating CBI. As such, the contractor shall adhere to EPA's CBI policy and procedures as described in the contract clauses (Clauses H.15-H19 and H.21). The contractor must maintain CBI security clearance to use CBI information. The contractor shall not disclose any CBI to anyone other than EPA without prior written approval from the EPA WACOR. The contractor shall, at all times, adhere to Confidential Business Information (CBI) procedures when handling industry information. The contractor shall manage all reports, documents, and other materials and all draft documents developed under this work assignment in accordance with the procedures set forth in the "Office of Science and Technology Confidential Business Information Application Security Plan" (August 2011) or its successor approved plans.

Budget Reporting: The contractor under this work assignment is required to report to the EPA WACOR when 75 percent of the total work assignment funding amount has been depleted. The contractor must also report to the EPA WACOR when 75 percent of the approved work plan budget has been depleted.

Identification as Contracting Staff: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be identified clearly as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public, the contractor should refer all interpretations of policy to the EPA.

Limitation of Contractor Activities: The contractor shall submit drafts of all deliverables to the EPA WACOR for review prior to submission of the final product. These drafts will clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor shall incorporate all EPA WACOR comments into all final deliverables, unless otherwise agreed upon by the EPA WACOR.

Quick Response: Under this Performance Work Statement, the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one week.

Travel: EPA does not anticipate the need for non-local travel by contractor employees and/or subcontractors to support the scope of this work assignment.

Deliverable Formatting: All memos, draft comments, summaries and responses, and chapters are to be provided in hard copy and in electronic form using Word and/or Excel/Access, ArcView, or, in special cases, another software program agreed to in advance by EPA. Memos are to be written in a manner that will make them easy to turn into draft chapters for the Final Reports. For deliverables that are in Word or pdf versions of Word documents, and that are intended to be shared with EPA management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether or not decimal places are reported. All final materials, e.g., memos, chapters, etc. are to be prepared only after receiving written technical direction from the EPA WACOR.

Monthly Progress Reports: The monthly progress reports shall include a reporting of hours and funds

spent under this WA on a task-by-task basis.

## **VIII. Performance Work Statement**

The EPA WACOR will review all deliverables in draft form and provide revisions and/or comments to the contractor. The contractor shall prepare the final deliverables incorporating the EPA WACOR's comments.

### **Task 1 - Prepare Work Plan**

#### ***Estimated Total LOE for Task 1: 20 hours***

The contractor shall prepare a work plan within 15 calendar days after receipt of the work assignment signed by the Contracting Officer (CO). The work plan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WACOR, the Contract Level Contracting Officer Representative (CL-COR) and the CO will review the work plan. However, only the CO can approve/disapprove, suggest revisions, or change the work plan. Official revisions will be given to the contractor by the CO. The contractor shall prepare a revised work plan incorporating the CO's comments, if required.

#### ***Deliverables and schedule***

1. Work plan within 15 calendar days after receipt of work assignment.

A weekly update call with the EPA WACOR will be required for this work assignment to discuss progress on deliverables, costs, and other issues.

### **Task 2 - Quality Assurance (QA)**

#### ***Estimated Total LOE for Task 2: 20 hours***

#### ***2.1 Background***

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1 A2 (May 2000), and implementing guidance CIO-2105-P-01-0 (May 2000). All projects that involve the generation, collection, analysis, and use of environmental data must have an approved Quality Assurance Project Plan (QAPP) in place prior to the commencement of the work. Examples of these environmental data operations are provided in Table 2.1 below.

**Table 2.1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data**

<b>Item</b>	<b>Examples</b>
Data	Includes field sampling information (sample location information, flow measurements, temperature, pH, physical observations, etc.), laboratory measurements (e.g., chemical, physical, biological, radiological measurements), data collected from questionnaires, economic data, census data, and any other types of existing data (i.e., data generated for a



**Table 2.1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data**

Item	Examples
	different purpose or generated by a different organization)
Data generation	Includes field studies, laboratory studies, and generation of modeling output
Data collection	Includes field surveys, questionnaire surveys, literature searches, and third party data
Data evaluation	Includes data inspection, review, assessment, and validation
Data analysis	Includes statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models; database creation, data extraction, and data manipulation
Data use	Any use of data to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, 304(m) program, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs)

Note that QAPPs are required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. (A model is set of equations and assumptions used to predict unknown data.) When existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model and explain how it will be used and how its output will be evaluated to ensure the modeling effort meets the overall quality objectives for the project. Development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria.

## **2.2 QA Project Plan Requirements**

The contractor has previously prepared a contract-wide Programmatic QAPP (PQAPP) for Contract EP-C-13-039. This PQAPP describes, in a single document, information that is not site or time-specific, but applies throughout the program (i.e., the duration of the contract). When tasked with preparing the PQAPP, the contractor was informed that the PQAPP may need to be supplemented with project-specific details to support individual work assignments that involve the collection, generation, evaluation, analysis, or use of environmental data.

The activities in this work assignment involve gathering, evaluating, analyzing, and otherwise using existing environmental data (also known as “secondary” use of data). However, EPA has determined that the contractor is operating under the existing PQAPP and that the PQAPP addresses QA requirements for this work assignment. In support of this work assignment, the contractor shall ensure that the work plan provides enough detail to clearly describe:

- Specific objectives of the project(s) supported by this work assignment, including typical questions that must be answered when the contractor is using existing sources of data to perform economic analyses in support of EPA’s implementation activities under the final 316(b) rule;
- The type of data to be gathered or used under this work assignment to support the project objectives—including data from search engines, federal databases, EPA data bases—as well as a

rationale for when those databases are appropriate and what data available in each will support the project;

- The quality objectives needed to ensure the data will support the project objectives; and,
- The Quality Assurance/Quality Control (QA/QC) activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.

Table 1 in the Appendix at the end of this WA contains the EAD Checklist for this project, which utilizes existing data. The table demonstrates how the PQAPP addresses QA requirements for this work assignment. The contractor shall fill in staff roles in the table in the 'explanatory comments' under A.4 and make any additional detailed notes in the explanatory comments column as requested by the WACOR. The contractor shall then include the completed table as a separate Appendix A to the work plan upon submittal to EPA. This Appendix A should be a stand-alone document if QA documentation is requested. Therefore, the table title must include the title of the WA, WA number, and contract number. The WACOR has provided this information in the title, which the contractor may use to fulfill this requirement.

### ***2.3 Additional QA Documentation Required***

The EPA Quality Manual for Environmental Programs (CIO 2105-P-01-0, May 2000) requires published Agency reports containing environmental data to be accompanied by a readily identifiable section or appendix that discusses the quality of the data and any limitations on the use of the data with respect to their originally intended application. The EPA Quality Manual further requires Agency reports to be reviewed by the QA manager (or other authorized official) before publication to ensure that an adequate discussion of QA and QC activities is included. The purpose of the review is to ensure that the reports provide enough information to enable a knowledgeable reader to determine whether the technical and quality goals were met for the intended use of the data. Reports should include applicable statements regarding the use of any environmental data presented as a caution about possible misuse of the data for other purposes. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies (including the project goals and objectives, quality objectives and criteria, and QA/QC practices) that were employed to control and document the quality of data generated and used. These documents should also discuss any deviations from procedures documented in the EPA-approved QAPP(s) supporting the project, the reasons for those deviations, any impact of those deviations had on data quality, and steps taken to mitigate data quality issues.

In support of this Agency requirement, all major deliverables (e.g., Technical Support Documents, Study Reports, Analytical Methods) produced by the contractor under this work assignment must include a discussion of the QA/QC activities that were performed to support the deliverable. This discussion must provide a sufficient level of detail to allow the Engineering and Analysis Division (EAD) QA Coordinator (or designee) to determine whether the QA/QC strategies implemented for the project sufficiently support the intended use of the data. Upon receipt, the EPA WACOR will review each applicable report and certify whether the contractor has adhered to the QA requirements documented in the contractor's PQAPP.

The contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the contractor may include this report as a part of the contract-required monthly financial/technical progress report.

## ***2.4 Data Quality Act/Information Quality Guidelines Requirements***

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis so that the information could be substantially reproduced. To support compliance with these data transparency/ data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. (This includes PQAPPs and SQAPPs.) The contractor may claim information in QAPPs as confidential; if the contractor chooses to do so, the contractor shall submit a sanitized (i.e., public) version and an unsanitized (i.e., confidential) version at the time the QAPP is submitted for approval by EPA. The sanitized version shall be included in the public docket for the applicable rulemaking (or other docket record), and the unsanitized version shall be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP shall be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the contractor should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the contractor designates as confidential so that the EPA WACOR can easily identify the areas that shall require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA WACOR, the contractor may be requested to prepare pre-dissemination review checklist as described in Section 5.5 of the Office of Water Quality Management Plan, February 2009. If this is required, the EPA WACOR shall notify the contractor through written technical direction.

### ***Deliverables and schedule***

1. Monthly reports of QA work performed (may be included in contractor's monthly progress report) due monthly throughout the WA period of performance.

## **Task 3 - Adherence to the Standardized Naming Convention and Version Control**

### ***Estimated Total LOE for Task 3: 0 hours***

The contractor shall follow the SNCVC memorandum prepared under WA 1-04 of this contract, which describes a standardized naming convention and version control (SNCVC) for all deliverables associated with the WA. This system will ensure that deliverables are clearly named and dated and that the sequence of versions of a document is clear.

## **Task 4 – Economic Cost and Impact Analytical Support**

Under this task, the contractor shall revise and finalize the economic impacts and cost-effectiveness chapters for the final rule Technical and Economic Development Document (TEDD); review and prepare responses to public comments EPA received on the proposed rule; conduct new analyses based on comments and data received from the public; and provide general technical support in response to inquiries from EPA management. The contractor may also be tasked with providing technical and rulemaking support on environmental assessment-related issues as needed.

***Estimated Total LOE for Task 4: 250 hours***

### ***4.1 Completion of Sections 10 and 12 of the final rule TEDD and related preamble sections***

The contractor shall finalize Section 10: Economic Impacts for the Dental Industry, and Section 12, Cost-Effectiveness Analysis of the TEDD (Technical and Economic Development Document) which the contractor prepared under WA 3-05, and Task 7 of 4-05 under Contract No. EP- C-07-023, with updated numbers from the analyses updated under WA 2-22. Note: The EPA WACOR will include comment bubbles in the TEDD directing the contractor where to update numbers and explanation for analysis changes. The contractor shall also update the corresponding sections of the preamble for the final rule (Sections XI and XIII) and shall update the Statutory and Executive Orders Section XVII of the final rule preamble, including the Regulatory Flexibility Act section, also in line with updated analyses performed in WA 2-22. Again, the EPA WACOR will include comment bubbles in the preamble of where to update the numbers and explanation for analysis changes.

Revisions to the technical data may occur at several stages of the review process including: review of public comments, EPA Office of Water Management review, Agency workgroup members review, or Office of Management and Budget (OMB) review. Revisions may have to be made after each subsequent level of review. All comments will be provided to the contractor through written technical direction by the EPA WACOR. The contractor should expect two sets of significant revisions. After each set of significant revisions, the contractor shall submit draft materials to the EPA WACOR for review. The contractor shall include a description of the QA measures taken in completing this task.

The work shall adhere to the approved PQAPP for the work assignment and include a description of the QA measures that were followed.

### ***Deliverables and schedule***

**4.1a.** Revised drafts of Sections 10 and 12 of the final TEDD are due August 12<sup>th</sup>, and the corresponding revised sections of the preamble for the final rule, including Section XVII of the preamble, are due August 19<sup>th</sup>, or may be changed with receipt of technical direction from the EPA WACOR.

**4.1b.** Final drafts of Sections 10 and 12 of the final TEDD, and the corresponding revised sections of the preamble for the final rule, including Section XVII of the preamble, are due one week after receipt of comments from the EPA WACOR, but no later than September 15, 2016.

### ***4.2 Provide Technical Support for Dental Amalgam Rulemaking Activities***

The contractor shall provide technical support for Dental Amalgam rulemaking activities. Such support will be based on technical direction given by the EPA WACOR and may include responding to management questions about economic or environmental issues and preparing briefing and meeting

materials. These materials may include, but are not limited to, short briefing documents and PowerPoint presentations. The contractor may also be requested to participate in and/or conduct briefings, assist Agency economists in their review of analyses conducted by EPA and its contractors, provide technical review of materials prepared for the rulemaking by Agency staff, and assist in the development of the rulemaking record. Although a precise number of technical support tasks cannot be given at this time, EPA expects the number to be between three and six. For the purpose of estimating work plan costs, assume that two may be “quick response” deliverables. Deliverables may include environmental assessment-related technical support activities as requested by the EPA WACOR in the technical direction issued.

The contractor shall prepare draft deliverable materials for the EPA WACOR’s review and approval. Once the EPA WACOR reviews the draft materials and provides comments to the contractor, the contractor shall prepare a final version of the materials incorporating the EPA WACOR’s comments.

***Deliverables and schedule***

**4.2a.** Draft deliverables are due two weeks after receipt of technical direction from the EPA WACOR. Quick response draft deliverables are due one week after receipt of technical direction from the EPA WACOR.

**4.2b.** Final deliverables are due one week after receipt of comments from the EPA WACOR, but no later than July 31, 2017.

**Task 5 – Provide up-date material for the EAD ELG Database**

***Estimated LOE hours: 20 hours***

After the completion of the rulemaking package, including the rule preamble and TEDD, the contractor shall submit to the EPA WACOR information and data to complete the ELG Database template (the template shall be provided by the EPA WACOR) for the Dental Amalgam ELG final rule analysis. This information will be stored in EAD’s ELG Database. This task shall take no more than 20 hours to complete.

***Deliverables and schedule***

**5.** ELG Database template is due 21 calendar days after signature by the Administrator.

**Total Estimated LOE is 310 hours.**

**SCHEDULE OF DELIVERABLES**

<b>Task</b>	<b>Deliverable</b>	<b>Delivery Schedule</b>
<b>Task 1 – Prepare Work Plan</b>		
<b>1</b>	Prepare work plan	Due within 15 calendar days after WA receipt.
<b>Task 2 - Quality Assurance</b>		

<b>Task</b>	<b>Deliverable</b>	<b>Delivery Schedule</b>
<b>2</b>	Monthly reports of QA work performed	Throughout the WA period of performance; to be included in monthly progress reports.
<b>Task 3 - Adherence to the Standardized Naming Convention and Version Control (SNCVC)</b>		
<b>3</b>	Adhere to SNCVC memorandum	No deliverable under this Task.
<b>Task 4– Economic Cost and Impact Analytical Support</b>		
<b>4.1a</b>	Revised drafts of Sections 10 and 12 of the final rule TEDD and related preamble sections, including Section XVII.	Due August 12 <sup>th</sup> COB for the TEDD. Due August 19, 2016 for related preamble sections, including Section XVII.
<b>4.1b</b>	Final drafts of Sections 10 and 12 of the final rule TEDD and related preamble sections, including Section XVII.	Due one week after receipt of comments from the EPA WACOR but not later than September 15, 2016.
<b>4.2a.</b>	Draft technical support deliverables	Due two weeks after receipt of written technical direction from the EPA WACOR. Quick turnaround deliverables are due one week after receipt of technical direction from the EPA WACOR.
<b>4.2b</b>	Final technical support deliverables	Due one week after receipt of comments from the EPA WACOR, but not later than July 31, 2017.
<b>Task 5 - Provide up-date material for the EAD ELG Database</b>		
<b>5</b>	ELG Database template	Due 21 calendar days after signature by the Administrator.

## Appendix

### EAD Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039, Utilizing Existing Data

The items noted in this checklist are adapted from those elements found in *EPA Requirements for QA Project Plans (QA/R-5)* (EPA, 2001a), but tailored to the use of existing data.

**Table 1. EAD Checklist for WA 3-22 Utilizing Existing Data**

QAPP Element	A = Applicable N/A = Not applicable		Covered in PQAPP?	Covered in SQAPP?	Ac = Acceptable NAc = Not Acceptable		Comments
	A	N/A			Ac	NAc	
<b>A1. Title &amp; Approval Sheet</b>							
Project title	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039
Organization's name	X		X				See above
Effective date and/or version identifier	X		X				See above
Dated signature of Organization's project manager	X		X				See above
Dated signature of Organization's QA manager	X		X				See above
Other signatures, as needed (e.g., EAD Project Officer, EAD QA Coordinator)	X		X				See above
Revision History	X		X				Section ii of PQAPP; in addition – follow Appendix E for ELG database entries (Task 5 for this WA 3-22)
<b>A2. Table of Contents</b>							
Includes sections, figures, tables, references, and appendices	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
Document control information indicated (when required by the EPA Project Manager and QA Manager)		X					See above
<b>A3. Distribution List</b>							

QAPP Element	A = Applicable N/A = Not applicable		Covered in PQAPP?	Covered in SQAPP?	Ac = Acceptable NAc = Not Acceptable		Comments
	A	N/A			Ac	NAc	
Includes all individuals who are to implement or otherwise receive the QAPP and identifies their organization	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
<b>A4. Project/Task Organization</b>							
Identifies key individuals with their responsibilities (e.g., data users, decision makers, project QA manager, Subcontractors, etc.) and contact info.	X		X				PQA _____ Completed Checklist attached to work plan. EPA WACOR: Karen Milam
Organization chart shows lines of authority & reporting responsibilities	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
Project QA manager position indicates independence from unit collecting/using data	X		X				See above
<b>A5. Problem Definition/Background</b>							
Clearly states problem to be resolved, decision to be made, or hypothesis to be tested	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
Identifies project objectives or goals	X		X				See above
Historical & background information		X					See above
Cites applicable technical, regulatory, or program-specific quality standards, criteria, or objectives	X		X				See above
<b>A6. Project/Task Description</b>							
List measurements to be made/data to obtain	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
Notes special personnel or equipment requirements		X					See above
Provides work schedule		X					See above
<b>A7. Overall Quality Objectives &amp; Criteria</b>							



QAPP Element	A = Applicable N/A = Not applicable		Covered in PQAPP?	Covered in SQAPP?	Ac = Acceptable NAc = Not Acceptable		Comments
	A	N/A			Ac	NAc	
States overall quality objectives and limits needed to support the project goals and objectives cited in Element A5.	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
<b>A8. Special Training Requirements/ Certifications</b>							
Identifies specialized skills, training or certification requirements	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
Discusses how this training will be provided/the necessary skills will be assured and documented	X		X				See above
<b>A9. Project-level Documents &amp; Records</b>							
Describes process for distributing the approved QAPP and other planning documents (and updates) to staff	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
Identifies final work products that will result from the project	X		X				See above
Describes the process for developing, reviewing, approving, and disseminating the final work products and individuals responsible for these processes	X		X				See above
<b>B1. Data Needs</b>							
Detailed list/description of the specific data elements needed to support project goals	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
Description of the scope of the data elements that you need (e.g., data supporting specific treatment options vs. the full range of options, data supporting the entire country vs. a specific geographic region)	X		X				See above
If project includes development or update of a project database, QAPP identifies and defines each database field		X					See above

QAPP Element	A = Applicable N/A = Not applicable		Covered in PQAPP?	Covered in SQAPP?	Ac = Acceptable NAc = Not Acceptable		Comments
	A	N/A			Ac	NAc	
<b>B2. Potential Data Sources</b>							
Identifies and describes potential sources of the existing data needed (e.g., photographs, topographical maps, facility or state files, census data, meteorological data, publications, etc.) and the rationale for their use	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
If literature searches are used, describes the search engines that will be used and key search terms	X		X				See above
If databases or models will be used, describe the database (or model) in terms of who developed it and operates it and the type of data it contains	X		X				See above
For other potential sources, describe the potential sources and rationale for considering or using each one	X		X				See above
<b>B3. Criteria for Selecting Data Sources</b>							
Identifies each criterion that will be used to determine if the candidate data sources listed in B2 will meet your needs, and how each criterion is defined. (Criteria vary by project; examples include reliability, age, applicability, quantity, format, and others)	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
Explains rating system used to evaluate source against each criterion	X		X				See above
<b>B4. Data Value Selection Approach</b>							
For data sources that meet the criteria identified in B3: Describes the criteria and procedures that will be used to determine which value(s) identified in the acceptable sources are most appropriate for use in the project	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
For data that do not meet these pre-established criteria but are the only data available, explains how the decision to use such data will be made and documented	X		X				See above

QAPP Element	A = Applicable N/A = Not applicable		Covered in PQAPP?	Covered in SQAPP?	Ac = Acceptable NAc = Not Acceptable		Comments
	A	N/A			Ac	NAc	
<b>B5. Resolving Data Gaps</b>							
Describes the process for identifying and addressing data gaps that still exist after candidate data sources have been evaluated and appropriate data values have been identified	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
Describes the process that will be used to address any new data needs revealed during the data gathering process (i.e., additional data elements not previously considered)	X						See above
<b>B6. Data Gathering Documentation and Records</b>							
Describes how results of the source selection and the data value selection will be documented, including any sources or values that were rejected and the rationale for not using them	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
For data that are deemed acceptable and that will be used, explains how each data element will be associated to its original source citation (i.e., bibliographic information, telephone contact reports, email messages, etc.)	X		X				See above

QAPP Element	A = Applicable N/A = Not applicable		Covered in PQAPP?	Covered in SQAPP?	Ac = Acceptable NAc = Not Acceptable		Comments
	A	N/A			Ac	NAc	
<b>C1. Standardization of Data Elements</b>							
Describes the process to ensure that units and other key measures are captured and standardized (or otherwise made comparable) in the database	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
If the project requires that all fields be standardized to a single set of units (e.g., US dollars for economic data, ug/L for chemical data), identifies the standard units that will be required for each data element	X		X				See above
Identifies the procedures for converting data reported in other units to the standardized units, including any rounding or truncating procedures, and procedures for ensuring these conversions are performed correctly	X		X				See above
If standardization of data elements is not needed, explains the process for ensuring that data presented in varying units are comparable enough for use in the project and that project staff members and other data users will be able to readily identify differences in units	X		X				See above
<b>C2. Data Entry</b>							
Explains the process for manually entering selected data into the project database, who will be responsible for such data entry, and the QC strategies that will be used to ensure that the database accurately and completely captures the data as presented in the original source	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.


QAPP Element	A = Applicable N/A = Not applicable		Covered in PQAPP?	Covered in SQAPP?	Ac = Acceptable NAc = Not Acceptable		Comments
	A	N/A			Ac	NAc	
<b>C3. Merging or Uploading Electronic Data from Existing Sources</b>							
If data are available electronically and will be uploaded or merged into the project database: describes the procedures that will be followed to ensure that errors are not introduced during the upload/merge process and that the final database reflects the original dataset(s)	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
<b>C4. Data Review</b>							
Describes the process for ensuring that the data have been recorded, transmitted, and processed correctly	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
<b>C5. Data Storage and Manipulation</b>							
Describes how the existing data will be stored	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
Describes who will be responsible for access to and maintenance of the stored data	X		X				See above
Describes how the existing data will be incorporated with other project data to support the project goal/decision to be made	X		X				See above
Describes the QC strategies that will be employed to ensure that the integrity of the data is not compromised during data storage, access/retrieval, updates, or other manipulation	X		X				See above

QAPP Element	A = Applicable N/A = Not applicable		Covered in PQAPP?	Covered in SQAPP?	Ac = Acceptable NAc = Not Acceptable		Comments
	A	N/A			Ac	NAc	
<b>D1. Data Quality Verification and Data Quality Reporting</b>							
Describes the process for verifying that the final set of data meets the overall criteria originally specified for the project	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
Describes how these determinations will be documented and reported.	X		X				See above
For data that don't meet the pre-established specifications, explains the process for determining if they are usable and how such decisions will be documented	X		X				See above
<b>D2. Use/Analysis of the Existing Data</b>							
Provides details regarding the exact means in which the data will be used to meet project objectives	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
Includes an explanation or list of the information to be calculated and the data elements that will be used to make those calculations	X		X				See above
Includes applicable calculations and equations (if known) or explanations of how they will be developed.	X		X				See above
Includes plans for excluding outliers.	X		X				See above
<b>D3. Methodology Documentation and Conceptual Review</b>							
If exact methodologies for analyzing the data will need to be developed or modified during the course of data analysis, explains the process by which such methodologies will be documented, who is responsible for reviewing/ approving their use, and how the methodologies will be checked to ensure they yield the desired products	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.

QAPP Element	A = Applicable N/A = Not applicable		Covered in PQAPP?	Covered in SQAPP?	Ac = Acceptable NAc = Not Acceptable		Comments
	A	N/A			Ac	NAc	
<b>D4. Technical Review of the Data Analysis</b>							
Describes activities that will be used to ensure the data analyses are being implemented as specified and will support project objectives	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
Explains procedures for identifying and notifying appropriate personnel if changes to the originally planned procedures are warranted, and the process for approving, documenting and implementing such changes	X		X				See above
<b>D5. Final Verification of Data Analysis and Reconciliation with User Requirements</b>							
Describes the process for reviewing the final work product to ensure that the work was generated in accordance with the QAPP, and that the work product addresses the overall project goals and objectives	X		X				See Checklist for WA 3-22 Economics Support for the Dental Amalgam ELG Rulemaking, Contract EP-C-13-039. See corresponding Exhibit 1 of the PQAPP.
Describes how the results of this assessment will be documented	X		X				See above
Describes how any limitations of the data or data analyses that were used to prepare the final work product will be documented and communicated	X		X				See above

Work Assignment Form. (WebForms v1.0)



<b>EPA</b> United States Environmental Protection Agency Washington, DC 20460 <b>Work Assignment</b>						Work Assignment Number 3-29			
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:			
Contract Number EP-C-13-039		Contract Period   09/11/2013   To   07/31/2017 Base                      Option Period Number       3		Title of Work Assignment/SF Site Name TRI Community Engagement Outre					
Contractor ABT ASSOCIATES INC.				Specify Section and paragraph of Contract SOW D1, D2					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval						Period of Performance  From   09/08/2016   To   07/31/2017			
Comments:									
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Superfund         <span>Accounting and Appropriations Data</span> <input checked="" type="checkbox"/> Non-Superfund       </div>									
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.									
SFO <input type="checkbox"/> (Max 2)									
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)  (Cents)	Site/Project (Max 8)	Cost Org/Code
1									
2									
3									
4									
5									
Authorized Work Assignment Ceiling									
Contract Period:		Cost/Fee:			LOE:				
09/11/2013   To   07/31/2017									
This Action:									
Total:									
Work Plan / Cost Estimate Approvals									
Contractor WP Dated:				Cost/Fee		LOE:			
Cumulative Approved:				Cost/Fee		LOE:			
Work Assignment Manager Name   Shelley Fudge  <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code:			
						Phone Number: 202-566-0674			
						FAX Number:			
Project Officer Name   Ahmar Siddiqui  <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code:			
						Phone Number: 202-566-1044			
						FAX Number:			
Other Agency Official Name  <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code:			
						Phone Number:			
						FAX Number:			
Contracting Official Name   Tammy Adams <div style="display: flex; justify-content: space-between;"> <div>             Digitally signed by TAMMY ADAMS            DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=TAMMY ADAMS, dnQualifier=0000018417            Date: 2016.09.08 06:23:58 -04'00'         </div> <div>_____ (Signature)</div> </div>						Branch/Mail Code:			
						Phone Number: 513-487-2030			
						FAX Number: 513-487-2545			

**PERFORMANCE WORK STATEMENT  
FOR WORK ASSIGNMENT 3-29**

- I. Title:** TRI Community Engagement Outreach and Education Products  
**Contractor:** Abt Associates **Contract No.:** EP-C-13-039
- II. Work Assignment Number:** 3-29
- III. Estimated Period of Performance:** Date of Issuance through July 31, 2017
- IV. Key EPA Personnel:**

**Work Assignment Contracting Officer's Representative (WACOR):**

Shelley Fudge  
OCSPP/OPPT/TRIPD/COB (7410M)  
202-566-0674

**V. Background and Purpose:**

The Environmental Protection Agency's (EPA's) Office of Environmental Information (OEI) participates in multi-media program activities conducted by EPA offices under other environmental and administrative statutes, such as the Emergency Planning and Community Right-to-Know Act (EPCRA) and the Pollution Prevention Act (PPA). Examples of these activities include performing multi-media analysis and identifying pollution prevention opportunities particularly as they relate to management priorities such as environmental justice. The Toxics Release Inventory (TRI) tracks the management of certain toxic chemicals that may pose a threat to human health and the environment.

TRI provides information on releases of chemicals to water, as well as air and land. The information submitted by facilities is compiled by EPA and supports informed decision-making by industry, government, non-governmental organizations and the public by providing data to assess changes in the amount and type of emissions released to the environment. As part of the TRI program, EPA holds a National Training Conference on the Toxics Release Inventory and Environmental Conditions in Communities, which is the primary outreach event for the program and key to the implementation of the TRI program. The conference includes sessions on TRI data and tools, results of analyses using TRI data, and information on conditions and trends in ecological and human health, including environmental justice communities and children's health.

The purpose of this Work Amendment (WA) and longer-term objectives associated with this WA is to provide support for the development of a variety of products that increase and improve TRI community engagement communication, outreach and education objectives. These objectives are intended to assist a variety of TRI data users, particularly community-scale audiences, as well as community leaders and other data intermediaries who assist community-based data users, in accessing, using and understanding TRI and other environmental resources and analytical products. Other audiences for these products are TRI regional and state coordinators, and other regional and staff, tribal community leaders and agency staff, as well as staff from other EPA Headquarters' program offices.

The completion of the projects listed below, as well as the schedule for completing the listed milestones will depend upon collaborative efforts with other staff in the Toxic Release Inventory Program Division (TRIPD) staff and OEI that are necessary to complete the project requirements, as well as upon gaining management approval for implementation of proposed project products.

## **VI. General Requirements of the Work Assignment and Schedule**

Budget Reporting: The contractor shall report to the EPA WACOR and Contract level Contracting Officer's Representative (CL-COR) when 75 percent of the approved Work plan budget has been depleted.

Identification as Contracting Staff: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public, the contractor shall refer all interpretations of policy to the EPA WACOR.

Limitation of Contractor Activities: The contractor shall submit drafts of all deliverables to the EPA WACOR for review prior to submission of the final product. These drafts shall clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor shall incorporate all EPA WACOR comments into all final deliverables, unless otherwise agreed upon by the EPA WACOR. The contractor shall adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), EPA CL-COR, and EPA WACOR.

Quick Response: Under this Performance Work Statement (PWS) the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one to five working days.

Travel: EPA does not anticipate the need for non-local travel by contractor employees and/or subcontractors to support the scope of this work assignment.

Deliverable Formatting: All memos, draft comments, summaries and responses, and chapters are to be provided in hard copy and in electronic form using Word and/or Excel/Access, ArcView, or, in special cases another software program agreed to by EPA. Memos are to be written in a manner which shall make them easy to turn into draft chapters for the Final Report. For deliverables that are in Word or pdf versions of Word documents, that are intended to be shared with management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether decimal places are reported or not. All final materials, e.g., memos, chapters, etc. are to be prepared only after receiving written technical direction from the EPA WACOR.

## **VII. Performance Work Statement**

The EPA WACOR shall review all deliverables in draft form and provide revisions and/or comments to the contractor. The contractor shall prepare the final deliverables incorporating the EPA WACOR's comments.

### **Task 1: Prepare Work Plan**

The contractor shall prepare a work plan within 15 calendar days after receipt of the work assignment. The work plan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WACOR, the CL-COR and the CO shall review the work plan. However, only the CO can approve/disapprove, suggest revisions, or change the work plan. Official revisions shall be given to the contractor by the CO. The contractor shall prepare a revised work plan incorporating the CO's comments, if required.

### **Task 2: TRI Community Risk Communication Fact Sheet and one or more other outreach materials designed for a community-based audience**

The contractor shall provide support for the development of a new TRI community-oriented risk (i.e., hazard impacts) communication fact sheet, which shall be no longer than two-pages when printed in hardcopy. This task may include development of other similar community-oriented fact sheets and/or other similar resources, and/or associated improvements to the TRI Risk webpage. Resource materials shall be made available in both electronic online format and in a hardcopy "handout" format. These resource materials shall be visually appealing, with graphics and charts that are easy to understand and decipher both in electronic online, as well as hardcopy formats, in color, as well as in black and white. Depending upon the anticipated need based upon feedback provided by EPA Headquarters and Regional staff, the contractor may also be tasked with translating the TRI community-oriented risk communication fact sheet into Spanish and/or another foreign language.

### **Task 3: TRI Tribal Community Engagement Assistance**

The contractor shall provide support for the development of a TRI Tribal Action Plan and one or more new information resources and/or improvements to the TRI for Tribes webpage, which would be associated with implementation of the TRI Tribal Action Plan (depending upon outcome of post-TRI National Conference half day meeting with management and staff representatives from EPA Regions, states and tribes managers, as well as approval by TRI management of developing Tribal resources as a component of implementing the TRI Tribal action plan). The TRI Tribal Action Plan, improvements to the TRI for Tribes webpage and additional new resources are expected to increase access, understanding and use of TRI data for Tribal communities. Examples of new resources include TRI Tribal-related fact sheets, guides, brochures, slide presentations, training materials, videos, website/online resources, etc. Any such resources shall be made available in electronic online format, and in a hardcopy "handout" format, and would need to be visually appealing, with graphics and charts that are easy to understand and decipher in both formats in color and in black and white. Depending upon the recommendations in the plan of action and/or upon the anticipated need based upon feedback provided by EPA Headquarters and Regional staff, the contractor may also be tasked with translating one or more resource materials into one or more languages other than English.

#### **Task 4: Enhancements to “TRI for Communities” Webpage and One-Stop-Shopping “TRI for Communities” Interface on TRI Homepage**

The contractor shall provide support for the development of revisions to the current “TRI for Communities” webpage (accessible from EPA’s TRI website), and a new “one-stop shopping” interface on the TRI website homepage that is tailored to a community-based audience.

This project does not entail the development of new software application tools, nor does it require the development of new databases or models, or the collection of any new data. The product shall incorporate and link to information from existing EPA tools and data sources, as well as other related publicly available environmental tools and data sources. It shall provide links to several publicly available EPA databases and other relevant information.

The project is expected to result in improvements to EPA’s TRI website in order to increase access, understanding and use of TRI data for community-based TRI data users. It will combine the best elements of various current existing online TRI data tools and provides a “one-stop shopping” approach to address communities’ priority areas of interest.

No single existing online TRI data tool includes all of the best community-targeted data and there are so many different TRI data tools to choose from that they confuse community-based data users, which discourages them from using TRI. The proposed changes are based upon input collected through the TRI Program Division’s multi-year TRI Community Engagement Pilots Project Initiative.

This proposal may be implemented in stages rather than in one full implementation phase. The newly designed “TRI for Communities” interface is expected to include: a) an electronically automated “TRI Community Snapshot” feature (*accessed by specifying an address, zip code, city or county*), which displays a map of all the TRI facilities located in the designated location, various charts and graphs that provide information about the top TRI releasing facilities, TRI trends over the past 10 years, and contextual data about the percentage of carcinogenic vs. non-carcinogenic chemicals released in a given community; b) an easier to access initial visual search interface for finding information about a specific TRI facility -- with key data about the facility’s release trends, compliance record, and health effects data for each of the chemicals released at the chosen facility; and c) an improved, easy to access TRI health effects interface with TRI community-wide health effects data, as well as facility-level health effects data. The new interface is expected to emphasize easy to understand visuals and include the types of maps, charts and graphs that community-based leaders and members have identified as most useful to them. In addition, the contractor will develop a variety of ways that community-based data users can produce high quality hardcopies that display key community-tailored data that are easy to customize and print in both color and black and white. Depending upon the anticipated need based upon feedback provided by EPA Headquarters and Regional staff, the contractor may also be tasked with providing a Spanish translation version of TRI Community Analysis Interface that would be posted with the English version electronically on the TRI website.

This task also requires contractor support for developing a variety of sections and possibly subpages for a revised “TRI for Communities” webpage. The project is expected to include: a) content to provide information about how the TRI program supports community engagement, and in particular, environmental justice communities’ access, understanding and use of TRI data;

b) links to and contextual content about all relevant TRI online and hardcopy resources; and c) links to and contextual content about all relevant EPA and non-EPA Federal, state and local online and hardcopy resources.

Note that this task may require a phased implementation strategy rather than full implementation at one specific point in time. Adjustments may need to be made to the initial design plan and overall project proposal, depending upon various information technology (IT) project requirements that could affect project development for these proposed improvements to the TRI for Communities webpage and to an improved community-based data access interface for the TRI homepage.

The contractor may also be requested to provide support for the development of a poster to display at the 2016 TRI National Training Conference scheduled to take place in October 2016, about the revised TRI for Communities Webpage and new TRI homepage interface for accessing TRI data that is tailored to a community-based audience.

The contractor shall not work on this task until it receives authorization via Technical Direction from the EPA WACOR.

#### **Task 5: TRI Data Uses by Communities**

The contractor shall provide support for the development of one or more new information resources related to development of a project that identifies those communities that have used TRI data and describes how they have used such data. The project will include: a) conducting research to identify TRI communities that have used TRI data to improve the public health and environmental sustainability of their local geographic areas; b) scheduling phone call interviews as deemed necessary with various community-based leaders, representatives of community grassroots organizations and environmental groups, as well as other community leaders, and preparing notes from phone call interviews; and c) development of an internal EPA report. It may also include development of a report made publicly available on the Agency's TRI website, as well as publicly posted "highlights" on the TRI website homepage banner of the best examples of TRI data uses by communities. If the report is publicly posted on the TRI website, the contractor may also be tasked with translating it into one or more languages other than English. The contractor shall not work on this task until it receives authorization via Technical Direction from the EPA WACOR.

#### **Task 6: TRI Guide for Community Leaders**

The contractor shall provide support for the development of a new TRI guide for community leaders. The guide is intended to be used as a training manual for such leaders, who can serve as intermediaries to train community members in how to access, understand and use TRI data. The guide may be produced in the form of a short pamphlet or brochure (although other creative formats may also be acceptable but must be approved by the WACOR), and it may include examples of "success stories" about TRI release reductions, P2 improvements, etc. and/or other methods of conveying various uses of TRI data that would resonate for a community-oriented audience. The guide shall be made available online on EPA's TRI website, as well as in hardcopy, and must be visually appealing, with graphics and charts that are easy to understand and decipher in both color and in black and white – online and in hardcopy. Depending upon the anticipated need based upon feedback provided by EPA Headquarters and Regional staff, the

contractor may also be tasked with translating the TRI guide for community leaders into Spanish and/or another foreign language. The contractor shall not work on this task until it receives authorization via Technical Direction from the EPA WACOR.

## **DELIVERABLE SCHEDULE**

<b>TASKS</b>	<b>ASSIGNMENTS</b>	<b>DUE DATE</b>
<b>1</b>	Prepare work plan.	15 calendar days after receipt of work assignment
<b>3</b>	Develop strategy for developing TRI Tribal Action Plan.	November 3, 2016
<b>5</b>	Conduct research and schedule phone interviews for TRI Data Uses by Communities. <i>(If authorized to start this task via Technical Direction from the EPA WACOR.)</i>	November 10, 2016
<b>5</b>	Develop draft version of TRI Data Uses by Communities internal report. <i>(If authorized via Technical Direction from the EPA WACOR.)</i>	November 17, 2016
<b>3</b>	Develop draft TRI Tribal Action Plan.	December 1, 2016
<b>2</b>	Develop draft version of TRI Community Risk Communication Fact Sheet for management review/ approval.	December 9, 2016
<b>4</b>	Develop strategy for first phase of improved “TRI for Communities Webpage” and revisions to TRI homepage interface. <i>(If authorized to start this task via Technical Direction from the EPA WACOR.)</i>	December 15, 2016
<b>5</b>	Complete final version of TRI Data Uses by Communities internal report for management approval.	January 6, 2017
<b>3</b>	Complete final TRI Tribal Action Plan for management review/approval.	January 12, 2017
<b>4</b>	Begin first phase proposal for revised “TRI for Communities” and TRI homepage interface for community data access for management approval. <i>(If authorized via Technical Direction from the EPA WACOR.)</i>	January 20, 2017
<b>2</b>	Complete final version of TRI Community Risk Communication Fact Sheet and associated improvements to the TRI Risk webpage for management approval.	February 2, 2017



- |   |                                                                                                                                                                                                    |                   |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| 5 | Develop draft version of TRI Data Uses by Communities report for posting on TRI website and/or TRI website banner “highlights.” <i>(If authorized via Technical Direction from the EPA WACOR.)</i> | February 17, 2017 |
| 3 | Develop draft version of improvements to TRI for Tribes Website and/or a new TRI for Tribes resource material(s). <i>(If authorized via Technical Direction from the EPA WACOR.)</i>               | March 3, 2017     |
| 5 | Complete final version of TRI Data Uses by Communities report for posting on TRI website and/or TRI website banner “highlights” for management approval.                                           | March 23, 2017    |
| 4 | Complete first phase implementation of revised “TRI for Communities” webpage and homepage interface development process.                                                                           | April 7, 2017     |
| 4 | Develop strategy for 2 <sup>nd</sup> phase of improved “TRI for Communities Webpage” and revisions to TRI homepage interface. <i>(If authorized via Technical Direction from the EPA WACOR.)</i>   | April 20, 2017    |
| 6 | Develop draft TRI Guide for Community Leaders for management review/approval. <i>(If authorized to start this task via Technical Direction from the EPA WACOR.)</i>                                | April 28, 2017    |
| 4 | Begin 2 <sup>nd</sup> phase of revised “TRI for Communities” and TRI” webpage and homepage interface for management approval. <i>(If authorized via Technical Direction from the EPA WACOR.)</i>   | May 15, 2017      |
| 3 | Complete the final version of improvements to TRI for Tribes website and/or a new TRI for Tribes resource Material(s).                                                                             | May 23, 2017      |
| 6 | Develop draft TRI Guide for Community Leaders for management review/approval. <i>(If authorized to start this task via Technical Direction from the EPA WACOR.)</i>                                | June 9, 2017      |
| 4 | Complete 2 <sup>nd</sup> phase of revised “TRI for Communities” and TRI” webpage and homepage interface for management approval.                                                                   | July 13, 2017     |
| 6 | Complete final version of “TRI Guide for Community Leaders” for management approval.                                                                                                               | July 28, 2017     |



<b>EPA</b> United States Environmental Protection Agency Washington, DC 20460 <b>Work Assignment</b>						Work Assignment Number 3-29				
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:				
Contract Number EP-C-13-039			Contract Period   09/11/2013   To   07/31/2017 Base                      Option Period Number       3			Title of Work Assignment/SF Site Name TRI Comm Engagemt Outreach&Edu				
Contractor ABT ASSOCIATES INC.				Specify Section and paragraph of Contract SOW D1, D2						
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval						Period of Performance  From   09/08/2016   To   07/31/2017				
Comments:										
<input type="checkbox"/> Superfund                      Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
SFO <input type="checkbox"/> Note: To report additional accounting and appropriations date use EPA Form 1900-69A.										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee: \$0.00		LOE: 0						
09/11/2013 To 07/31/2017										
This Action:		\$30,113.00		286						
Total:		\$30,113.00		286						
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:		09/30/2016		Cost/Fee \$30,113.00		LOE: 286				
Cumulative Approved:				Cost/Fee \$30,113.00		LOE: 286				
Work Assignment Manager Name   Shelley Fudge  <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code:				
						Phone Number: 202-566-0674				
						FAX Number:				
Project Officer Name   Ahmar Siddiqui  <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code:				
						Phone Number: 202-566-1044				
						FAX Number:				
Other Agency Official Name  <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code:				
						Phone Number:				
						FAX Number:				
Contracting Official Name   Tammy Adams <div style="display: flex; justify-content: space-between;"> <div> <b>TAMMY ADAMS</b>            _____            (Signature)         </div> <div>           Digitally signed by TAMMY ADAMS            DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=TAMMY ADAMS, dnQualifier=0000018417            Date: 2016.10.17 14:03:03 -04'00'         </div> </div>						Branch/Mail Code:				
						Phone Number: 513-487-2030				
						FAX Number: 513-487-2545				